

AMENDMENT

IN THE CLAIMS:

A complete listing of the claims is provided below. Please amend claims 2 and 15 and add new claim 18 as follows:

1. (Canceled)

2. (Currently amended) A light-transmitting module, comprising:

a stack of a metallic block, an insulating heat sink mounted on said metallic block and an electrically conductive layer formed on said insulating heat sink, said stack forming a parallel-plate capacitor with capacitance; and

a laser diode having an anode and a cathode, said laser diode being mounted on said conductive layer such that said anode faces and is in contact with said conductive layer, said laser diode being driven by a driver signal provided by said cathode and being biased in said anode through said conductive layer and a bonding wire with inductance, said bonding wire being connected with said conductive layer; and

a driver for providing said driver signal to said cathode of said laser diode, said driver being mounted on a metallic block,

wherein a said capacitance of said parallel-plate capacitor is at least 50 pF such that a critical frequency formed by said parallel-plate capacitor and said inductance of said bonding wire exceeds 10 GHz, and

~~wherein said heat sink includes a groove for securing an optical fiber.~~

3. (Previously presented) The light-transmitting module according to claim 2,

wherein said laser diode includes an n-type substrate and a plurality of epitaxial layers of an n-type cladding layer, an active layer, and a p-type cladding layer grown on said n-type substrate, said p-type cladding layer corresponding to said anode and said n-type substrate corresponding to said cathode, said laser diode being mounted on said conductive layer such that

said plurality of epitaxial layers faces and is in contact with said conductive layer.

4. (Previously presented) The light-transmitting module according to claim 2,

wherein said laser diode includes a p-type substrate and a plurality of epitaxial layers of a p-type cladding layer, an active layer, and an n-type cladding layer grown on said p-type substrate, said n-type cladding layer corresponding to said cathode and said p-type substrate corresponding to said anode, said laser diode being mounted on said conductive layer such that said p-type substrate faces and is in contact with said conductive layer.

5-7. (Canceled)

8. (Previously presented) The light-transmitting module according to claim 15,

wherein said laser diode includes an n-type substrate and a plurality of epitaxial layers of an n-type cladding layer, an active layer, and a p-type cladding layer grown on said n-type substrate, said p-type cladding layer corresponding to said anode and said n-type substrate corresponding to said cathode, said laser diode being mounted on said conductive layer such that said epitaxial layers face and are in contact with said conductive layer.

9. (Previously presented) The light-transmitting module according to claim 15,

wherein said laser diode includes a p-type substrate and a plurality of epitaxial layers of a p-type cladding layer, an active layer, and an n-type cladding layer grown on said p-type substrate, said n-type cladding layer corresponding to said cathode and said p-type substrate corresponding to said anode, said laser diode being mounted on said conductive layer such that said p-type substrate faces and is in contact with said conductive layer.

10. (Previously presented) The light-transmitting module according to claim 15,

wherein said heat sink is made of copper tungsten.

11. (Previously presented) The light-transmitting module according to claim 15,
wherein said heat sink is made of silicon.
12. (Previously presented) The light-transmitting module according to claim 15,
wherein said insulating layer is made of material selected from a group of silicon oxide,
silicon nitride, or silicon oxi-nitride.
13. (Previously presented) The light-transmitting module according to claim 15,
further comprising an electrically conductive and grounded block, said heat sink being
mounted on said conductive block.
14. (Canceled)
15. (Currently amended) A light-transmitting module, comprising:
a stack of an electrically conductive heat sink, an insulating layer provided on said heat
sink and an electrically conductive layer, said stack forming a parallel-plate capacitor with
capacitance; ~~and~~
a laser diode having an anode and a cathode, said laser diode being mounted on said
electrically conductive layer such that said anode faces and is in contact with said conductive
layer, said laser diode being driven by a driver signal provided by said cathode and being biased
in said anode through said conductive layer and a bonding wire with inductance, said bonding
wire being connected with said conductive layer; and
a driver for providing said driver signal to said cathode of said laser diode, said driver
being mounted on a metallic block,
wherein a said capacitance of said parallel-plate capacitor is at least 50 pF such that a
critical frequency formed by said parallel-plate capacitor and said inductance of said bonding
wire exceeds 10 GHz, and
~~wherein said heat sink includes a groove for securing an optical fiber.~~

16-17. (Cancelled)

18. (New) A light-transmitting module, comprising:

a stack of an electrically conductive heat sink, an insulating layer provided on said heat sink and an electrically conductive layer, said stack forming a parallel-plate capacitor with capacitance;

a laser diode having an anode and a cathode, said laser diode being mounted on said electrically conductive layer such that said anode faces and is in contact with said conductive layer, said laser diode being driven by a driver signal provided by said cathode and being biased in said anode through said electrically conductive layer and a bonding wire with inductance, said bonding wire being connected with said electrically conductive layer;

an electrically conductive and grounded block for mounting said stack; and

a driver for providing said driver signal to said cathode of said laser diode, said driver being mounted on said electrically conductive block,

wherein said capacitance of said parallel-plate capacitor is at least 50 pF such that a critical frequency formed by said parallel-plate capacitor and said inductance of said bonding wire exceeds 10 GHz.